Technical Standards Working Group (TSWG) Meeting

Presentation by the Joint Utilities of New York

March 29, 2023

CASE 18-E-0138 – Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure

Contents For Discussion Purposes Only – Subject to Change

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Agenda

- Current Standards Landscape - Update
- Draft Phase 2 & 3 implementation plan:
  - Schedule and milestones
  - Envisioned role of Implementor
  - Industry survey / Request for Information (RFI)
- Principles for device eligibility for testing, re: Phase 1.

Current Standards Landscape - Update

National landscape of EV and EVSE metering standards and state/utility pilots is ever-evolving

State Investigations

- California PUC issued an EVSE submetering protocol in Aug. 2022 (still being established by utilities).
- Maryland, Minnesota, Connecticut, Massachusetts, and North Carolina, are taking steps to investigate.
  - Also, utility-directed investigations at Duke North Carolina and Florida Power & Light.
- Recent JU outreach includes the ATE Annual Meeting, UL, NIST, and Tesco, with several other discussions in the works.

Standards and Specifications

- 2023 edition of NIST Handbook 44, Section 3.40, addresses testing standards and protocols for commercial EVSE. NY may choose to adopt it.
  - Handbook 44 is officially scoped as not applying to utility metering; only for EVSE used in commercial transactions.
  - NYS Weights & Measures has experience testing commercial L2 chargers against Handbook 44.
- DOE-EPA draft ENERGY STAR v1.2 specification for EVSE includes optional allowances for Revenue Grade Metering (the EVSE must meet ANSI C-12.20-2015).
  - NY will require ENERGY STAR for Level 1/2 EVSE starting June 26, 2023, per a recent NYSERDA requirement.
- JU are aware of, but have not investigated, applicability of NEMA SM31000.

Draft Phase 2 & 3 Testing Implementation Plan

April-May: Issue industry survey/RFI and review responses. Hold TSWG meetings.

Early Summer: Issue RFP to hire a testing implementor

Late Summer/Fall: Implementor selection and contracting.

Q4 2023: Refine the testing protocol; solicit industry partnerships to support testing (e.g., loaner devices; telematics access; feedback on testing protocol; etc.).

Q1 2024: Conduct device testing.

Q2 2024: Reporting and/or additional time for device testing. Finish by July 14, 2024.

Q3 2024: Issue Phase 3 comprehensive report by October 1, 2024.

Implementation and Timing Considerations for Phase 2 & 3

To meet the target milestones of the proposed implementation plan, the JU will (likely) need:

- Efficient decision making with the TSWG.
- Clarity from DPS and the Commission that costs incurred in submetering investigation will be recoverable.
- A narrow and/or flexible scope of device testing as the plan moves forward.
- To stay flexible on the geographic location(s) of the testing.

Proposed Role of the Testing Implementor(s)

The JU proposes to select one or more implementors to support the technical design and implementation of the Phase 2 accuracy testing effort, including:

- Project management to coordinate testing implementation with stakeholders, including the JU, NY PSC/DPS, industry experts, and participating technology providers such as managed charging service providers or EVSE/EV OEMs.
- Help to draft and refine a testing protocol in support of the NY requirements. (e.g., may be based upon NIST Handbook 44, ANSI C-12.20, etc.).
- Provide a testing/laboratory environment to implement the testing protocol.
- Coordinate the sourcing of eligible devices for testing.
- Conduct device testing, data collection, and analysis & reporting on the Phase 2 findings.

Industry Survey (RFI) Approach

- To efficiently gather information about capabilities in the market, the JU proposes to release an industry survey (a.k.a. Request for Information/RFI) for potential implementors and collaborators in April-May.
- Results of the survey will help inform testing procedure design, device selection, and to inform the procurement of Phase 2&3 implementation services.
- Survey would be open to:
  - **Technology providers** (automakers, charging hardware/software providers, managed charging service providers, etc.)
  - **Technical implementors** (nationally recognized testing laboratories, etc.)
  - **Collaborators** (government entities, standards organizations, industry groups, etc.)

If you would like to be put on the distribution list for this survey, please contact the Joint Utilities at: info@jointutilitiesofny.org

Industry Survey (RFI) Approach – Technology Providers

Example information solicited through survey:

- Vehicle, charging device, or software specifications and ability to collect information including, but not limited to: kWh, battery state of charge, peak demand/output
- Device or software standards, accuracy, interoperability, safety, and more
- How the device or software can be used to optimize managed charging: a) charging behavior b) battery state of charge c) range prediction d) V2X integration
- Willingness to partner for this effort: e.g., provide devices for testing

Target stakeholder list*

EVSE OEMs and Networks:
ChargePoint
ABB
EnelX
Siemens
Smartenit
Clipper Creek
Grizzl-E (United Chargers)
EVgo
Vehicle OEMs:
BMW
Chevrolet
Ford
Tesla
Toyota
GM
Honda
Stellantis

Managed Charging Service Providers
Rolling Energy Resources
WeaveGrid
EV.energy
EnergyHub
Virtual Peaker

*This is a non-exhaustive list of stakeholders. Any parties wishing to receive the JU's industry survey should contact the JU at info@jointutilitiesofny.org to be put on the distribution list.

Industry Survey (RFI) Approach – Implementors

Example information solicited through survey:

- Testing laboratory specifications, capabilities, and costs
- Ability to source devices and related cost information
- Experience testing EVSE and/or EVs, experience testing existing standards (ANSI C12.1/12.20, SM31000, NIST 44 Handbook Section 3.4), experience designing original test procedures and specifications
- Experience and ability to collect, analyze, and report on testing results

Target stakeholder list*

Laboratories
Tesco Metering
DNV / NY BEST Test & Commercialization Center
UL
TUV
InterTek
National Renewable Energy Laboratory (NREL) - Energy Systems Integration Facility
Oak Ridge National Laboratory - Grid Research Integration and Deployment Center
Argonne National Lab
DEKRA VIGIL lab, Concord CA
DEKRA lab, Reston, VA
MET Labs, Baltimore
Advanced Technologies (ATS)

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Industry Survey (RFI) Approach – Collaborators

Example information solicited through survey:

- Other resources or expertise that parties can contribute to support the testing procedure
- Benchmarking and best practices from other jurisdictions

Target stakeholder list*

Government Agencies
NYS Weights & Measures
DOE EnergyStar
OSHA
NIST
ANSI
Industry Associations
VGIC
AAI
EPRI

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Principles for Phase 1 device eligibility - **Concept outline**

- *"In phase one, not more than one year after the effective date of this Order, the TSWG shall establish eligibility criteria in order to determine what equipment will be considered for testing purposes."* *Managed Charging Order p.27*

- As stated previously, the JU believes there are three categories of devices for consideration in testing: the EVSE, the EV, and the EV telematics aggregator.

- The JU believes it is infeasible to test all possible EVs, EVSE, and telematics services providers (and combinations of EV/EVSE/telematics) due to the expected costs, timeline, level of effort, and device availability.

- **Thus, the JU recommends testing a subset of devices that are:**
  1. Eligible;
  2. Priority; and
  3. Available.

Proposed principles for Phase 1 device eligibility

1. **Eligible** – Managed charging enabling-devices supported by a Utility managed charging program. e.g., Tesla Model 3; ChargePoint Home Flex.

2. **Priority** – Devices that have large market shares, are supported by multiple Utility programs, or are otherwise deemed important to test.

3. **Available** – Devices the JU and testing implementor can obtain for testing:
   - For EVSE, the JU expect few roadblocks --> partnerships with OEMs would still be helpful.
   - For EVs, the JU expect some roadblocks --> partnerships with OEMs will be critical.
   - For telematics, the JU expect to need partnerships with the various telematics and managed charging service providers.
   - Thus, availability can only be fully determined after industry partnerships are arranged.

If we have agreement on these principles, the JU can propose a list of prioritized, eligible devices before the April 12th TSWG meeting.

Q&A